



**स्वामी राम हिमालयन विश्वविद्यालय**  
**Swami Rama Himalayan University**

## **Criterion 1 - Curricular Aspects**

### **1.1.1 Outcome Analysis of POs, COs MS General Surgery (2019-2022)**

**Himalayan Institute of Medical Sciences**

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## A. Program Outcomes

After successful completion of the program, the student will able to be a:

|            |  |
|------------|--|
| <b>PO1</b> | Practice surgery efficiently and effectively, backed by a sound scientific knowledge and skill base  |
| <b>PO2</b> | Acquire a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology  |
| <b>PO3</b> | Exercise empathy and a caring attitude and maintain high ethical standards   |
| <b>PO4</b> | Continue to evince keen interest in continuing surgical education  |
| <b>PO5</b> | Be a motivated 'teacher' –to share his knowledge and skills with a colleague or a junior   |
| <b>PO6</b> | Shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy |

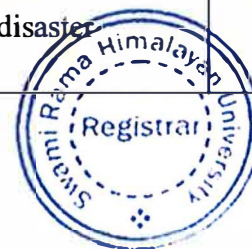
  


## B. Course-wise CO-PO Mapping

Mapping factor or Correlational level between Course Outcome (CO) and Program Outcomes (PO) indicates to what extent the teaching and assessment method of CO correlates/contributes the PO at the level defined below:

| Corelation Level | Particulars                                    |
|------------------|--|
| 3                | Substantial/high contribution of CO towards PO |
| 2                | Moderate contribution of CO towards PO         |
| 1                | Slight/low contribution of CO towards PO       |

| Course Name  |   | General Surgery                     |      |      |      |      |      |
|--|---|-------------------------------------|------|------|------|------|------|
| Course Outcomes (COs)                                  |   | CO-PO Mapping (Articulation Matrix) |      |      |      |      |      |
| At the end of the course the students will be able to: |   | PO-1                                | PO-2 | PO-3 | PO-4 | PO-5 | PO-6 |
| CO 1   | Demonstrate knowledge of applied aspects of basic sciences like applied anatomy, physiology, biochemistry, pathology, microbiology and pharmacology           | 3                                   |      |      |      | 2    |      |
| CO 2   | Demonstrate knowledge of the bedside procedures and latest diagnostics and therapeutics available   | 3                                   | 1    | 1    |      |      |      |
| CO 3   | Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children         | 3                                   | 1    | 3    | 1    | 1    |      |
| CO 4   | Demonstrate the theoretical knowledge of general principles of surgery  | 2                                   | 2    | 2    | 1    |      |      |
| CO 5   | Identify a problem, prepare a research protocol, conduct a study, record observation and analyses data, interpret result, discuss and disseminate the finding | 1                                   | 3    |      | 2    |      |      |
| CO 6   | Demonstrate the theoretical knowledge of systemic surgery including disaster management and recent advances   | 2                                   |      |      | 2    | 1    |      |



|              |  |   |   |   |   |   |   |
|--------------|--|---|---|---|---|---|---|
| <b>CO 7</b>  | Demonstrate the theoretical knowledge to choose, and interpret appropriate diagnostic and therapeutic imaging including ultrasound, Mammogram, CT scan, MRI  | 3 |   |   | 2 | 2 |   |
| <b>CO 8</b>  | Demonstrate the knowledge of ethics, medico-legal aspects, communication skills and leadership skills. The PG student should be able to provide professional services with empathy and humane approach                       | 1 |   | 3 |   | 1 | 3 |
| <b>CO 9</b>  | Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion    | 2 |   | 2 |   | 3 | 2 |
| <b>CO 10</b> | Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion | 1 |   | 3 |   | 2 | 3 |
| <b>CO 11</b> | Develop communication skills to word reports, obtain a proper relevant history and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching             | 1 |   | 3 |   | 3 |   |
| <b>CO 12</b> | Obtain informed consent for any examination/procedure and explain to the patient and attendants the disease and its prognosis with a humane approach   | 1 |   | 3 | 1 | 2 |   |
| <b>CO 13</b> | Provide appropriate care that is ethical, compassionate, responsive and cost effective and in conformation with statutory rules  | 1 |   | 3 | 1 | 2 | 3 |
| <b>CO 14</b> | Perform a humane and thorough clinical examination including internal examinations and examinations of all organs/systems in adults and children   | 3 |   | 1 |   | 1 |   |
| <b>CO 15</b> | Write a complete case record with all necessary details  | 3 |   |   | 1 | 1 |   |
| <b>CO 16</b> | Arrive at a logical working diagnosis / differential diagnosis after clinical examination  | 3 | 2 |   | 1 | 1 |   |
| <b>CO 17</b> | Order appropriate investigations keeping in mind their relevance (need based)  | 3 |   |   | 1 | 1 |   |



|                               |  |              |              |              |              |              |              |
|-------------------------------|--|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>CO 18</b>                  | Choose, perform and interpret appropriate imaging in trauma - ultrasound FAST (Focused Abdominal Sonography in Trauma)   | 3            |              |              | 2            | 1            |              |
| <b>CO 19</b>                  | Perform minor operative procedures and common general surgical operations independently and the major procedures under guidance                                    | 3            |              | 1            | 1            | 1            |              |
| <b>CO 20</b>                  | Provide basic and advanced lifesaving support services in emergency situations   | 3            |              | 1            | 1            | 1            |              |
| <b>CO 21</b>                  | Provide required immediate treatment and comprehensive treatment taking the help of specialist as required   | 3            |              | 1            | 1            | 1            |              |
| <b>CO 22</b>                  | Perform minimally invasive surgery in appropriate clinical settings. Must have undergone basic training in operative laparoscopy related to general and GI Surgery | 3            |              |              | 1            | 1            |              |
| <b>CO 23</b>                  | Undertake complete patient monitoring including the preoperative and post-operative care of the patient  | 3            |              |              | 1            | 1            |              |
| <b>CO 24</b>                  | Write a proper discharge summary with all relevant information   | 2            | 1            |              |              | 1            |              |
| <b>Course-wise PO Average</b> |  | <b>2.333</b> | <b>0.417</b> | <b>1.125</b> | <b>0.833</b> | <b>1.250</b> | <b>0.458</b> |

### C. Program outcome Target Value:

Following table calculates the overall average of all POs of the Courses and is referred as average PO Reference values.

| Course Name                                 | PO-1         | PO-2         | PO-3         | PO-4         | PO-5         | PO-6         |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| General Surgery                             | 2.333        | 0.417        | 1.125        | 0.833        | 1.250        | 0.458        |
| <b>Combined Average PO Reference values</b> | <b>2.333</b> | <b>0.417</b> | <b>1.125</b> | <b>0.833</b> | <b>1.250</b> | <b>0.458</b> |




### D. Assessment of CO and PO Attainment Value

The attainment of the course outcome is measured at the level of 3 as follows:

| Attainment Levels | Criteria  |
|-------------------|---|
| 3                 | If <b>80%</b> of student achieves marks <b>greater</b> than threshold percentage of the total score of assessment |
| 2                 | If <b>70%</b> of student achieves marks <b>greater</b> than threshold percentage of the total score of assessment |
| 1                 | If <b>60%</b> of student achieves marks <b>greater</b> than threshold percentage of the total score of assessment |
| 0                 | If <b>60%</b> of student achieves marks <b>less</b> than threshold percentage of the total score of assessment    |

Attainment level of COs is measured through direct attainment of COs depending on the performance of the students in University Examination (UE) individually. For the MS program the threshold percentage is set at 50% for University Examination.

| Course Name                                   | Attainment of COs | Derived Attainment of POs Course-wise |              |              |              |              |              |
|---|-------------------|---------------------------------------|--------------|--------------|--------------|--------------|--------------|
|   |                   | PO-1                                  | PO-2         | PO-3         | PO-4         | PO-5         | PO-6         |
| General Surgery                               | <b>3.000</b>      | 2.333                                 | 0.417        | 1.125        | 0.833        | 1.250        | 0.458        |
| <b>Average PO Achievement Through Results</b> |                   | <b>2.333</b>                          | <b>0.417</b> | <b>1.125</b> | <b>0.833</b> | <b>1.250</b> | <b>0.458</b> |
| <b>Average PO Reference values</b>            |                   | <b>2.333</b>                          | <b>0.417</b> | <b>1.125</b> | <b>0.833</b> | <b>1.250</b> | <b>0.458</b> |
| <b>Percentage Attainment of PO's</b>          |                   | <b>100%</b>                           | <b>100%</b>  | <b>100%</b>  | <b>100%</b>  | <b>100%</b>  | <b>100%</b>  |

From the Attainment level of CO, the Derived PO's value for course is calculated as follows:

$$\text{Derived PO Value} = \frac{\text{CO attainment} \times \text{respective PO average}}{3}$$

Depending on derived PO values of the courses, calculate the average PO achievement for each PO.

Calculate the percentage attainment of PO's as follows:

$$\text{Percentage attainment of PO's} = \frac{\text{Average PO Attainment through}}{\text{average PO refrence value}} \times 100$$